

**Notice of Allowability**

Application No.

09/877,027

Examiner

Linh M. Nguyen

Applicant(s)

TSUKIKAWA, YASUHIKO

Art Unit

2816

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 11/07/2003.
2. ☒ The allowed claim(s) is/are 2,3,5-13 and 15-17.
3. ☒ The drawings filed on 11 June 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
  - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.
  - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                    | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____             |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. _____  | 7 <input type="checkbox"/> Examiner's Amendment/Comment                             |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|  | 9 <input type="checkbox"/> Other  |

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### **DETAILED ACTION**

This is a reply to the Applicant's amendment submitted on 11/07/2003. According to this amendment, claims 1, 4 and 14 are cancelled; thus, claims 2-3, 5-13, and 15-17 are currently presented in the instant application.

#### ***Allowable Subject Matter***

1. Claims 2-3, 5-13 and 15-17 are allowed.

#### ***Reasons for Allowance***

2. The following is an examiner's statement of reasons for allowance:

The closest prior art fails to disclose or fairly suggest at least one reason for each corresponding claim listed as follows:

(i) a gray code counter, configured in the delay locked loop, including (a) a gray code register for storing the gray code, (b) a binary code converter for converting the gray code into a binary code, (c) an upward carry/downward carry generator using the binary code stored in the binary code converter, to generate an upward carry signal and a downward carry signal, and (d) a carry multiplexer for generating from the upward carry signal and the downward carry signal a carry signal corresponding to a result obtained by the detector, for updating said gray code in the gray code register, as called for in independent claims 2 and 5;

(ii) a delay locked loop including a combination of (a) a first input buffer for receiving at least a first external clock and a second external clock complementary in phase to the first external clock, and outputting a first internal clock at the timing of the rising edge of the first external clock when a potential of the first external clock is equal to that of the second external clock, (b) a second input buffer for receiving at least the first and second external clocks, and

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outputting a second internal clock at the timing of the rising edge of the second external clock when a potential of the first external clock is equal to that of the second external clock, and (c) a second delay circuit for delaying the second internal clock to output a fourth internal clock, as called for in independent claim 11; and

(iii) a control method for a system operating in synchronization with a clock comprising the steps of: (a) converting the gray code into a binary code, (b) using the binary code to produce an upward carry signal and a downward carry signal, and (c) referring to a result obtained in the step of detecting to generate a carry signal from the upward carry signal and the downward carry signal for updating the gray code, as called for in independent claim 15

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh M. Nguyen whose telephone number is (703) 305-0414. The examiner can normally be reached on Alternate Mon, Tuesday - Friday from 7:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P Callahan can be reached on (703) 308-4876. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

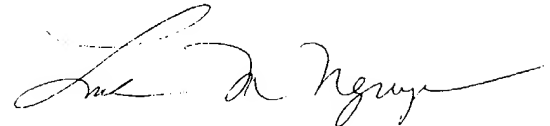
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LMN

A handwritten signature in black ink, appearing to read "Linh M. Nguyen", with a long horizontal flourish extending to the right.